

We claim:

1. A method to determine whether a substance is an inhibitor or a ligand of a protein, comprising:

incubating said substance with a mixture, wherein said mixture comprises:

- a) a protein, which contains at least one catalytic domain and at least one binding domain,
- b) at least one marker substrate, which binds to the catalytic domain and is converted by the protein, and
- c) at least one substrate, which can bind to the catalytic domain and to the binding domain,

determining whether the marker substrate is converted by the protein.

2. A method according to claim 1 wherein the determination of whether the marker substrate is converted by the protein is made by comparing the conversion of the marker substrate in the presence of the test substance with the corresponding conversion in control mixtures A and B, and wherein the control mixture A comprises the protein and the marker substrate; and the control mixture B comprises the protein, the substrate and the marker substrate.

3. The method as claimed in claim 1, wherein the protein used is collagenase, the substrate used is collagen, and the marker substrate used is (7-methoxycoumarin-4-yl)acetyl-Pro-Leu-Gly-Leu-(3-[2,4-dinitrophenyl]-L-2,3-diaminopropionyl)-Ala-Arg-NH₂.

4. A test kit for carrying out the method as claimed in either one of claims 1-3, comprising:

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Sub a1

Sub a2

- pos

11. A method according to claim 9 wherein the disorder is a degenerative joint disorder.
12. A method according to claim 11 wherein the degenerative joint disorder is selected from:
osteoarthroses,
spondyloses,
chondrolysis after joint trauma or
prolonged immobilization of joints after meniscus or patella injuries or
tearing of ligaments.
13. A method according to claim 9 wherein the disorder is a disorder of the connective tissue.
14. A method according to claim 13 wherein the disorder of the connective tissue is selected from: collagenoses, periodontal disorders, wound-healing disturbances or chronic disorders of the locomotor apparatus
15. A method according to claim 14 wherein the chronic disorder of the locomotor apparatus is selected from: inflammatory, immunologically or metabolically caused acute or chronic arthritis, arthropathies, myalgias or disorders of bone metabolism.
16. A method according to claim 8 for the treatment of ulceration, arteriosclerosis, stenoses, inflammations, cancers, formation of tumor metastases, cachexia, anorexia or septic shock.
17. A substance which is determined to be an inhibitor or ligand by the method as claimed in any one of claims 1-3.